

CLAIMS:

1. A ternary system comprising:
 - (i) 40 to 65% water;
 - (ii) 6 to 22% alcohol or a ketone; and
 - (iii) 25 to 60% a fatty acid or an ester thereof.
- forming spontaneously a stable, non-viscous and clear nanosized structures having cubic-like nanosized symmetry.
2. A ternary system according to claim 1 wherein said alcohol is a C_1 - C_8 alcohol or polyalcohol.
3. A ternary system according to claim 2 wherein said alcohol is selected from the group consisting of ethanol, propanol, butanol, pentanol, hexanol, heptanol or octanol and wherein said polyalcohol is polyethylene glycol, propylene glycol, glycerol, sorbitol, manitol, fructose, sucrose, polyglycerol, or xylitol.
4. A ternary system according to claim 1 wherein said fatty acid is C_2 - C_{22} preferably C_8 - C_{18} and most preferably C_{12} - C_{16} saturated or unsaturated, said unsaturated fatty acid having at least one double bond.
5. A ternary system according to claim 1 comprising a fatty acid ester.
6. A ternary system according to claim 5 wherein said fatty acid ester is glycerol ester preferably glycerol monooleate.
7. A ternary system according to claim 1 wherein said ketone is a linear or cyclic C_3 - C_8 ketone which may comprise a heteroatom such as nitrogen, oxygen or sulfur.
8. A ternary system according to claim 1 wherein said formed non-viscous and clear nanosized structures having cubic-like nanosized symmetry is capable of being diluted or dispersed in a water/polymer at room temperature and/or by subjecting the system to vibrations at 200-20000 preferably 9000 rpm to form dispersed cubic-like nanosized particles.

- 22 -

9. A ternary system according to claim 8, where said polymer is selected from the group consisting of high molecular weight amphiphilic synthetic or naturally occurring polymer.
10. A ternary system according to claim 9 wherein said natural occurring
5 polymer is β -casein.
11. A ternary system comprising 45 to 55% water, 30 to 45% glycerol monooleate and 6 to 15% C_1 - C_4 alcohol.
12. A ternary system comprising 45 to 55% water, 30 to 45% glycerol monooleate and 6 to 22% C_3 - C_8 linear or cyclic ketone which may comprise a
10 heteroatom such as nitrogen, oxygen or sulfur.
13. A stable ternary system comprising
- (i) 40 to 65% water;
 - (ii) 6 to 22% alcohol or ketone; and
 - (iii) 25 to 60% fatty acid or an ester thereof,
- 15 forming spontaneously a stable, non-viscous and clear nanosized structures having cubic-like nanosized symmetry for use in solubilizing hydrophilic or hydrophobic substances in aqueous phase.
14. A ternary system according to claim 13 wherein said formed non-viscous and clear nanosized structures having cubic-like nanosized symmetry is capable of
20 being diluted or dispersed in a water/polymer in room temperature, and/or by subjecting the system to vibrations of 200-20000 preferably 9000 rpm to form dispersed cubic-like nanosized particles.
15. A ternary system according to claim 13 wherein said alcohol is a C_1 - C_8 alcohol or polyalcohol, preferably selected from the group consisting of ethanol, propanol, butanol, pentanol, hexanol, heptanol or octanol; said polyalcohol is
25 polyethylene glycol, propylene glycol, glycerol, sorbitol, manitol, fructose, sucrose, polyglycerol or xylitol; said fatty acid is C_2 - C_{22} preferably C_8 - C_{18} and most preferably C_{12} - C_{16} saturated or unsaturated comprising at least one double bond; said fatty acid ester is glycerol ester preferably glycerol monooleate; said ketone is

- 23 -

a linear or cyclic C_3 - C_8 ketone which may comprise a heteroatom such as nitrogen, oxygen or sulfur.

16. A stable ternary system of claims 13 or 14, wherein said solubilized substances are chosen from the group comprising of enzymes, vitamins,
5 pharmaceuticals, peptides, or food supplements.

17. A stable ternary system of claims 13 or 14, wherein said hydrophobic substance is lycopene, lutein, β -carotene, phytosterols.

18. A stable ternary system of claims 13 or 14, wherein said hydrophilic substance is ascorbic acid.

BEST AVAILABLE COPY